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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,991	07/09/2001	Kim Hjortgaard Nielsen	Q65346	5169

7590 10/03/2003
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

MCCHESNEY, ELIZABETH A

ART UNIT PAPER NUMBER

2644

DATE MAILED: 10/03/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/899,991

Applicant(s)

NIELSEN ET AL.

Examiner

Elizabeth A McChesney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 41 is/are allowed.
- 6) ☒ Claim(s) 19-23, 27-29 and 31-40 is/are rejected.
- 7) ☒ Claim(s) 24-26 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This action is in response to applicant's response filed 5/21/03. Claims 19-42 are now pending in the present application.
2. On page 3 of the applicant's response filed on 5/21/03, Paper No. 8, line 3 reads "Claims 1-8 (canceled)". However, claims 1-18 have already been canceled in the Preliminary Amendment filed 6/12/02, Paper No.4. For clarity, claims 1-18 have been canceled and claims 19-42 are now pending in the present application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claim 19** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. According to the specification. Page 6-line 18, the probe means 42 is shown in figure 1. However, the probe is connected in such a way that it is not extending through either of the input transducer but does extend through signal processing circuitry 28 and output transducers 12,14.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 19-23, 27-29, 31-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fletcher et al. (US Patent No. 4,049,930) in view of Lindemann et al. (US Patent No. 6,118,877).

Regarding **claim 19**, Fletcher et al. (hereinafter, "Fletcher") discloses an input transducer 10 for transforming an acoustic input into a first electrical signal (col. 19-20) and a hearing aid amplifier 12 which processes the first electrical signal to produce a second electrical signal based on the first wherein the second electrical signal is an amplified version of the first (col. 4-lines 21-24) and an output transducer 14 for converting the second signal into sound (col. 4-lines 24-26). Fletcher further discloses a detector 24, which performs like the probe in the claimed limitation in that it determines a signal parameter by comparing the reference and test signal and wherein the reference and test signal extends down through the circuit claimed (col. 4-lines 53-57). Fletcher further discloses a test gate system 26, which controls the state of the hearing aid wherein it receives an input from the detector 24, and generates the warning due to a defect (col. 4-lines 67-68 and col. 5-lines 1-5). Fletcher further discloses a trigger 28, which is activated during a test interval and reads on activation means as claimed (col. 5-line 1). (See Figure 1). However, Fletcher fails to specifically disclose an activation

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means in which commands are received from a remote control device. Lindemann et al. (hereinafter, "Lindemann") discloses a hearing aid, which is comprised of a microphone 202, a signal processor 204 and an output transducer 212. Lindemann further discloses an input 208 that receives tones and noise for diagnostics tests from an external source not shown which could be an external test tone generator, audiometer, tape recorder, compact disk player or other sound source provided to the switch (col. 6-lines 64 and col. 7-lines 1-4). Lindemann further discloses the switch is selectively coupled in response to control signals from the hearing aid fitter for diagnostic testing of the hearing aid (col. 7-lines 18-28). It would have been obvious for one of ordinary skill in the art to receive control signals from the hearing aid fitter or even user for the purpose of activating the diagnostic testing of the hearing aid in order for the user or fitter to receive and update of the hearing aid performance before beginning the fitting of the device.

Regarding **claim 20**, Fletcher discloses everything claimed as applied above (see claim 19). Fletcher further discloses a timed switching circuit 20 wherein the microphone may be selectively interrupted from the amplifier and wherein an interruption results in a disconnect for the signal path (col. 4-lines 30-32) while the switching circuit 20 in turn transmits a signal from the signal generator as the test signal for determination of any defect in the signal in comparison with the input signal.

Regarding **claim 21**, Fletcher discloses everything claimed as applied above (see claim 19). Fletcher further discloses signal generator 22 (col. 4-lines 46-60).

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Regarding **claim 22**, Fletcher discloses everything claimed as applied above (see claim 19). Fletcher further discloses the detector 24 compares the reference and test signal wherein the test gate system 26 operates the trigger, which turns on the warning system when a defect has been established (col. 4-lines 53-67).

Regarding **claim 23**, Fletcher discloses everything claimed as applied above (see claim 21). Fletcher further discloses the signal generator 22 injects test signal at a second point wherein the test signal is compared with the reference signal and which will in turn effect the emission by the output transducer.

Regarding **claims 27 and 28**, Fletcher discloses everything claimed as applied above (see claim 21). Fletcher discloses the detector 24 compares the reference and test signal with respect to amplitude and frequency wherein the test gate system 26 “verifies” that if the gain (amplitude and frequency) differs in any way it operates the trigger, which turns on the warning system.

Regarding **claim 29**, Fletcher fails to specifically disclose using compression in the claimed invention. Lindemann discloses that some hearing aids provide dynamic range compression and therefore it would have been obvious for one of ordinary skill in the art to use the compression ratio in view of the insertion gains in order to verify for a defect in the signal (col. 1-lines 42-53).

Regarding **claim 31**, Fletcher in view of Lindemann discloses everything claimed as applied above (see claim 19). Lindemann further discloses the switch is selectively coupled in response to control signals from the hearing aid fitter for diagnostic testing of the hearing aid (col. 7-lines 18-28). It would have been obvious for one of ordinary skill

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in the art to receive control signals from the hearing aid fitter or even user for the purpose of activating the diagnostic testing of the hearing aid in order for the user or fitter to receive and update of the hearing aid performance before beginning the fitting of the device. It would have been obvious to one of ordinary skill in the art that the switch is positioned "at a housing" wherein the switch is part of the hearing aid, which includes the switch.

Regarding **claims 32-34**, Fletch discloses everything claimed as applied above (see claim 19). Fletcher fails to specifically disclose an activation means in which commands are received from a remote control device. Lindemann et al. (hereinafter, "Lindemann") discloses a hearing aid, which is comprised of a microphone 202, a signal processor 204 and an output transducer 212. Lindemann further discloses an input 208 that receives tones and noise for diagnostics tests from an external source not shown which could be an external test tone generator, audiometer, tape recorder, compact disk player or other sound source provided to the switch (col. 6-lines 64-col. 7-lines 1-4). It is well known that these devices have the option of inputting through a remote control and include devices such as programming or fitting devices. Therefore it would have been obvious for one of ordinary skill in the art to receive commands from any inputs listed above to provide inputs through devices such as remote control, programming or fitting devices in order to operate the hearing aid.

Regarding **claim 35**, Lindemann further discloses a memory 220 for storing real world sound parameters (col. 6-lines 50-56).

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Regarding **claim 36**, Lindemann further discloses a tone generator 214, which generates a tone and provides such a signal to the controller in the test tone generation mode, which is inherent that the tone would be generated in the test mode when there is a defect.

Regarding **claim 37**, Lindemann further discloses the tone generator coupled to the receiver produces tone for diagnostic tests. Lindemann further discloses the test tone generator is a computer program that generates a tone signal or audio signal and provides such a signal for diagnostic tests in a test tone generation mode (col. 6-lines 21-26). Therefore it is inherent that this would provide an audio signal which reads on an alert to the user, information about the test for example, such as a defect.

Regarding **claim 38**, Fletcher fails to specifically disclose two switches. Lindemann discloses two switches 120 and 112, which reads on the claimed limitation that they are used for selective determination of parameters at respective points of the signal path (see figure 1).

Regarding **claim 39**, Lindemann shows in figure 1 where test signals can be selectively injected into either switch of the signal path through either for example the generic input 110 or the hearing rehabilitator 104.

Regarding **claim 40**, Fletcher et al. (hereinafter, "Fletcher") discloses an input transducer 10 for transforming an acoustic input into a first electrical signal (col. 19-20) and a hearing aid amplifier 12 which processes the first electrical signal to produce a second electrical signal based on the first wherein the second electrical signal is an amplified version of the first (col. 4-lines 21-24) and an output transducer 14 for

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converting the second signal into sound (col. 4-lines 24-26). Fletcher further discloses a detector 24, which performs like the probe in that it determines a signal parameter by comparing the reference and test signal and wherein the reference and test signal extends down through the circuit claimed (col. 4-lines 53-57). Fletcher further discloses signal generator 22 (col. 4-lines 46-60). Fletcher further discloses a test gate system 26, which controls the state of the hearing aid wherein it receives and input from the detector 24, and generates the warning due to a defect (col. 4-lines 67-68 and col. 5-lines 1-5). Fletcher further discloses a trigger 28, which is activated during a test interval and reads on activation means as claimed (col. 5-line 1). (See Figure 1).

However, Fletcher fails to specifically disclose an activation means in which commands are received from a remote control device. Lindemann discloses a hearing aid, which is comprised of a microphone 202, a signal processor 204 and an output transducer 212. Lindemann further discloses an input 208 that receives tones and noise for diagnostics tests from an external source not shown which could be an external test tone generator, audiometer, tape recorder, compact disk player or other sound source provided to the switch (col. 6-lines 64 and col. 7-lines 1-4). Lindemann further discloses the switch is selectively coupled in response to control signals from the hearing aid fitter for diagnostic testing of the hearing aid (col. 7-lines 18-28). It would have been obvious for one of ordinary skill in the art to receive control signals from the hearing aid fitter or even user for the purpose of activating the diagnostic testing of the hearing aid in order for the user or fitter to receive and update of the hearing aid performance before beginning the fitting of the device.

Response to Arguments

7. Applicant's arguments filed 5/21/03 have been fully considered but they are not persuasive.

The Applicant has amended claims 19 and 40 to read, " means for connecting said probe to a first point in a signal path of the hearing aid extending through said input transducer, said signal processor and said output transducer". According to the specification. Page 6-line 18, the probe means 42 is shown in figure 1. However, the probe is connected in such a way that it is not extending through either of the input transducer but does extend through signal processing circuitry 28 and output transducers 12,14. Therefore it is unclear to the Examiner how the connection of the probe meets the claimed limitation. Further, Lindemann discloses a switch is selectively coupled in response to control signals from the hearing aid fitter for diagnostic testing of the hearing aid (col. 7-lines 18-28). It would have been obvious for one of ordinary skill in the art to receive control signals from the hearing aid fitter or even user for the purpose of activating the diagnostic testing of the hearing aid in order for the user or fitter to receive and update of the hearing aid performance before beginning the fitting of the device. This reads on the claimed limitation pertaining to an operator activation means. Fletcher in view of Lindemann is therefore maintained for supporting the enclosed Examiner's Action.

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Conclusion

8. Claim 41 is allowed.
9. Claims 24-26 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. McChesney whose telephone number is (703) 308-4563. The examiner can normally be reached Monday – Friday, 8:00 am – 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

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EAM *gmm*
September 23, 2003

FW Isen
FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2698

**UNITED STATES DEPARTMENT OF COMMERCE****U.S. Patent and Trademark Office**

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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